

SEQUENCE LISTING

<110> McWhirter, John

<120> CELL SURFACE PROTEIN ASSOCIATED WITH HUMAN CHRONIC LYMPHOCYTIC
LEUKEMIA

<130> ALEX-P01-107

<140> US 10/559,438

<141> 2004-06-02

<150> US 60/530,094

<151> 2003-12-15

<150> US 60/475,156

<151> 2003-06-02

<160> 86

<170> PatentIn version 3.2

<210> 1

<211> 183

<212> PRT

<213> human

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			20					25					30		

Thr	Thr	Val	Glu	Ser	Glu	Arg	Pro	Asn	Lys	Val	Thr	Ile	Pro	Ser	Thr
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Phe	Ala	Ala	Val	Thr	Ile	Lys	Glu	Thr	Leu	Asn	Ala	Asn	Ile	Asn	Ser
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Thr	Asn	Phe	Ala	Pro	Asp	Glu	Asn	Gln	Leu	Glu	Phe	Ile	Leu	Met	Val
65					70					75				80	

Leu	Ile	Pro	Leu	Ile	Leu	Leu	Val	Leu	Leu	Leu	Leu	Ser	Val	Val	Phe
			85					90						95	

Leu	Ala	Thr	Tyr	Tyr	Lys	Arg	Lys	Arg	Thr	Lys	Gln	Glu	Pro	Ser	Ser
			100					105						110	

Gln Gly Ser Gln Ser Ala Leu Gln Thr Tyr Glu Leu Gly Ser Glu Asn
115 120 125

Val Lys Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu Ile
130 135 140

Glu Met Glu Glu Leu Asp Lys Trp Met Asn Ser Met Asn Arg Asn Ala
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Asp Phe Glu Cys Leu Pro Thr Leu Lys Glu Glu Lys Glu Ser Asn His
165 170 175

Asn Pro Ser Asp Ser Glu Ser
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gactattcca agcacatttg ctgcagtgcac catcaaagaa acattaaatg caaatataaa 240
ttctaccaac tttgctccgg atgaaaatca gttagagttt atactgatgg tgттаатccc 300
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tgtttaccta ccttgaagga agagaaggaa tcaaatacaca acccaagtga cagtgaatcc 600
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ctgccaacag gatcc 675

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<212> PRT
<213> murine

<400> 3

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Ser Ile Thr Glu Glu Glu Asn Ser Glu Asp Glu Thr Thr Arg Ser Ala
35 40 45

Leu Ala Thr Val Thr Thr Glu Ala Leu Ala Glu Asn Val Asn Ser Thr
50 55 60

His Thr Asn Asp Thr Ser Asn Gln Val Glu Phe Ile Leu Met Val Ala
65 70 75 80

Ile Pro Leu Ala Ala Leu Leu Ile Leu Leu Phe Met Val Leu Ile Ala
85 90 95

Thr Tyr Phe Lys Ser Lys Arg Pro Lys Gln Glu Pro Ser Ser Gln Gly
100 105 110

Ser Gln Ser Ala Leu Gln Thr His Glu Leu Gly Gly Glu Thr Leu Lys
115 120 125

Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu Ile Glu Met
130 135 140

Glu Glu Leu Asp Lys Trp Met Asn Ser Met Asn Arg Asn Ala Asp Tyr
145 150 155 160

Glu Cys Leu Pro Thr Leu Lys Glu Glu Lys Glu Pro Asn Pro Ser Pro
165 170 175

Ser Asp Asn Glu Ser
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<213> rat

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			20					25					30			
Ser	Glu	Tyr	Ser	Gly	His	Ser	Thr	Thr	Glu	Glu	Asp	Thr	Ala	Glu	Glu	
		35					40					45				
Glu	Thr	Thr	Arg	Ala	Leu	Ala	Thr	Val	Thr	Thr	Glu	Ala	Leu	Ala	Glu	
	50					55					60					
Ser	Ala	Asn	Ser	Thr	His	Ile	His	Gly	Thr	Ser	Asn	Gln	Val	Glu	Phe	
65					70					75					80	
Ile	Leu	Met	Val	Ala	Val	Pro	Leu	Ala	Ala	Leu	Leu	Ile	Leu	Leu	Phe	
				85					90					95		
Ala	Ile	Leu	Ile	Val	Ile	Tyr	Phe	Lys	Ser	Arg	Arg	Pro	Lys	Gln	Glu	
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Pro	Ser	Ser	Gln	Gly	Ser	Gln	Ser	Ala	Leu	Gln	Thr	Leu	Arg	Leu	Leu	
		115					120					125				
Leu	Ser	Leu	Glu	Thr	Lys	Arg	Pro	Glu	Pro	Ser	Val	Ala	Pro	Ser	Leu	
	130					135					140					
Gly	Pro	Arg	Pro	Thr	Ile	Pro	Leu	Pro	Thr	Ala	Gln	Arg	Gly	Pro	Cys	
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Gln	Gln	Ser	Gly	Cys	Lys	Ala	Gly	Thr	Lys	Gly	Gly	Arg	Gln	Asp	Arg	
				165					170					175		
Gly	Glu	Asn	Glu	Met	Ala	Gly	Arg	Lys	Gly	Thr	Lys	Trp	Lys	Pro	Val	
			180					185					190			
Gly	Asn	Gly	Pro	Gly	Ala	Glu	Lys	Met	Arg	Pro	Gln	Lys	Ala	Phe	Cys	
		195					200					205				
Ser	Phe	Asn	Ala	Asp	Tyr	Gly	Ala	Ser	His	Ser	Val	His	Leu	Glu	His	
	210					215					220					
Phe	Gly	Asn	Gly	Phe	Leu	Asn	Phe	Ser	Ile	Ile	Cys	Met	Gln	Val	Gly	
225					230					235					240	

Phe Cys Pro Pro Pro Ser Leu Trp Gly Ala Gln Met Arg Val Glu Ile
245 250 255

Arg Ala His Ser Gly Thr Val Glu Pro Leu Ala Val Trp Glu Ile Gly
260 265 270

Gly Glu Val Ala Lys Gln Gly Lys Gly Thr Asp Asp Leu Gly Gly Glu
275 280 285

Thr Leu Lys Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu
290 295 300

Ile Glu Met Glu Glu Leu Asp Lys Trp Met Asn Ser Met Asn Arg Asn
305 310 315 320

Gly Thr Trp Lys Thr Lys Ala Phe Ala Cys Leu Cys Gly Asn Ala Gly
325 330 335

Leu Asp Gly Cys Leu Cys Phe Ile Ser Asn Ser Glu Asn Leu Lys Leu
340 345 350

Cys Phe Ile Trp His Ser Thr Cys Ala Leu Leu Lys Asp Pro Val
355 360 365

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<212> DNA
<213> artificial sequence

<220>
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ttatccatat gatgttccag attatgctta tgaggaatta gaaaactcag gagatacaac 180
tgtggaatct gaaagaccaa ataaagtgac tattccaagc acatttgctg cagtgaccat 240
caaagaaaca ttaaattgcaa atataaattc taccaacttt gctccggatg aaaatcagtt 300
agagtttata ctgatgggtgt taatcccatt gattttattg gtcctcttac ttttatccgt 360
ggatttcctt gcaacatact ataaaagaaa aagaactaaa caagaacctt ctagccaagg 420

atctcagagt gctttacaga catatgaact gggaagtgaa aacgtgaaag tccctatattt	480
tgaggaagat acaccctctg ttatggaaat tgaaatggaa gagcttgata aatggatgaa	540
cagcatgaat agaaatgccg actttgaatg tttacctacc ttgaaggaag agaaggaatc	600
aatcacaaac ccaagtgaca gtgaatccta aacctgaatg gcgctcatgt tttccaagag	660
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 <213> artificial sequence

 <220>
 <223> FLJ32028 with HA epitope tag

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Val	Pro	Val	Gly	Arg	Gly	Asn	Tyr	Pro	Tyr	Asp	Val	Pro	Asp	Tyr	Ala
			20					25					30		

Tyr	Glu	Glu	Leu	Glu	Asn	Ser	Gly	Asp	Thr	Thr	Val	Glu	Ser	Glu	Arg
		35					40					45			

Pro	Asn	Lys	Val	Thr	Ile	Pro	Ser	Thr	Phe	Ala	Ala	Val	Thr	Ile	Lys
	50					55					60				

Glu	Thr	Leu	Asn	Ala	Asn	Ile	Asn	Ser	Thr	Asn	Phe	Ala	Pro	Asp	Glu
65					70					75					80

Asn	Gln	Leu	Glu	Phe	Ile	Leu	Met	Val	Leu	Ile	Pro	Leu	Ile	Leu	Leu
				85					90					95	

Val	Leu	Leu	Leu	Leu	Ser	Val	Val	Phe	Leu	Ala	Thr	Tyr	Tyr	Lys	Arg
			100					105					110		

Lys	Arg	Thr	Lys	Gln	Glu	Pro	Ser	Ser	Gln	Gly	Ser	Gln	Ser	Ala	Leu
		115					120					125			

Gln	Thr	Tyr	Glu	Leu	Gly	Ser	Glu	Asn	Val	Lys	Val	Pro	Ile	Phe	Glu
	130					135					140				

Glu Asp Thr Pro Ser Val Met Glu Ile Glu Met Glu Glu Leu Asp Lys
145 150 155 160

Trp Met Asn Ser Met Asn Arg Asn Ala Asp Phe Glu Cys Leu Pro Thr
165 170 175

Leu Lys Glu Glu Lys Glu Ser Asn His Asn Pro Ser Asp Ser Glu Ser
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<212> DNA
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gactattcca agcacatttg ctgcagtgac catcaaagaa acattaaatg caaatataaa 240
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aaaaagaact aaacaagaac cttctagcca aggatctcag agtgctttac agacatatga 420
actgggaagt gaaaacgtga aagtccttat ttttgaggaa gatacacct ctgttatgga 480
aattgaaatg gaagagcttg ataaatggat gaacagcatg aatagaaatg ccgactttga 540
atgtttacct accttgaagg aagagaagga atcaaatac aaccaagtg acagtgaatc 600
ctatccatat gatgttccag attatgctta aggatcc 637

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<213> artificial sequence

<220>
<223> FLJ32028 with HA epitope tag

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20 25 30

Thr Thr Val Glu Ser Glu Arg Pro Asn Lys Val Thr Ile Pro Ser Thr
35 40 45

Phe Ala Ala Val Thr Ile Lys Glu Thr Leu Asn Ala Asn Ile Asn Ser
50 55 60

Thr Asn Phe Ala Pro Asp Glu Asn Gln Leu Glu Phe Ile Leu Met Val
65 70 75 80

Leu Ile Pro Leu Ile Leu Leu Val Leu Leu Leu Leu Ser Val Val Phe
85 90 95

Leu Ala Thr Tyr Tyr Lys Arg Lys Arg Thr Lys Gln Glu Pro Ser Ser
100 105 110

Gln Gly Ser Gln Ser Ala Leu Gln Thr Tyr Glu Leu Gly Ser Glu Asn
115 120 125

Val Lys Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu Ile
130 135 140

Glu Met Glu Glu Leu Asp Lys Trp Met Asn Ser Met Asn Arg Asn Ala
145 150 155 160

Asp Phe Glu Cys Leu Pro Thr Leu Lys Glu Glu Lys Glu Ser Asn His
165 170 175

Asn Pro Ser Asp Ser Glu Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
180 185 190

<210> 9
<211> 1421
<212> DNA
<213> murine

<220>
<221> misc_feature
<222> (40)..(40)
<223> n = degenefacy in code

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 <212> PRT
 <213> murine

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<222> (14)..(14)
<223> Xaa = any amino acid

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<223> Xaa = any amino acid

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Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly
85 90 95

Ser His Val Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105 110

Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu
115 120 125

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe
130 135 140

Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg
145 150 155 160

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser
165 170 175

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu
180 185 190

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser
195 200 205

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys Xaa Ala Ala Ala Leu
210 215 220

Asp Ile Ile Lys Glu Ile Asn Met Lys Tyr Leu Leu Pro Thr Ala Ala
225 230 235 240

Ala Gly Leu Leu Leu Leu Ala Ala Gln Pro Ala Met Ala Leu Glu Val
245 250 255

Lys Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly Ser Leu
260 265 270

Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr Ala Met
275 280 285

Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val Ala Ser
290 295 300

Ile Ser Ser Gly Gly Thr Thr Tyr Tyr Leu Asp Ser Val Lys Gly Arg
305 310 315 320

Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Ile Leu Tyr Leu Gln Met
325 330 335

Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys Val Arg Ser
340 345 350

Glu Thr Asn Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Ala
355 360 365

Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala
370 375 380

Gln Thr Asn Ser Met Ile Thr Leu Gly Cys Leu Val Lys Asp Tyr Phe
385 390 395 400

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
405 410 415

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
420 425 430

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
435 440 445

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
450 455 460

Val Glu Pro Lys Ser Cys Asp Lys Thr Ser
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<210> 11
<211> 1421
<212> DNA
<213> murine

<400> 11
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gcaaggccac actgactgca gacaaagcct ccagcacggc ctacatggag ctccgaagcc 1020
tgacatctga ggactctgcc gtctattact gtacggctgg tgtttattgg ggccaaggga 1080

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<210> 12
<211> 472
<212> PRT
<213> murine

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<400> 12

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          20          25          30

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Asp Gly Lys Thr Tyr Leu Asn Trp Tyr Leu Gln Arg Pro Gly Gln Ser
          35          40          45

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Pro Gln Leu Leu Ile Tyr Phe Met Ser Thr Arg Ala Pro Gly Val Ser
          50          55          60

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Asp Arg Phe Ser Gly Ile Gly Ser Gly Thr Asp Phe Ile Leu Glu Ile
65          70          75          80

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```

Ser Arg Val Lys Ala Glu Asp Val Gly Val Tyr Tyr Cys Gln Gln Leu
          85          90          95

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```

Val Glu Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
          100          105          110

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Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu
          115          120          125

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Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe
          130          135          140

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Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg
145 150 155 160

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser
165 170 175

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu
180 185 190

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser
195 200 205

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys Ala Ala Ala Leu Asp
210 215 220

Ile Ile Lys Glu Ile Asn Met Lys Tyr Leu Leu Pro Thr Ala Ala Ala
225 230 235 240

Gly Leu Leu Leu Leu Ala Ala Gln Pro Ala Met Ala Leu Glu Val Gln
245 250 255

Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala Ser Val Thr
260 265 270

Leu Ser Cys Lys Ala Ser Asp Tyr Thr Phe Thr Asp Tyr Glu Met His
275 280 285

Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp Ile Gly Gly Ile
290 295 300

Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys Leu Lys Gly Lys
305 310 315 320

Ala Thr Leu Thr Ala Asp Lys Ala Ser Ser Thr Ala Tyr Met Glu Leu
325 330 335

Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Thr Ala Gly
340 345 350

Val Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala Ala Lys Thr
355 360 365

Thr Ala Pro Ser Val Tyr Pro Leu Ala Pro Val Cys Gly Asp Thr Thr

370

375

380

Gly Ser Ser Met Thr Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
 385 390 395 400

Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
 405 410 415

Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
 420 425 430

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
 435 440 445

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu
 450 455 460

Pro Lys Ser Cys Asp Lys Thr Ser
 465 470

<210> 13
 <211> 108
 <212> PRT
 <213> murine

<400> 13

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Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Val Leu Ile
 35 40 45

Tyr Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Asn Asn Leu Glu Gln
 65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asn Thr Leu Pro Phe
 85 90 95

Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg
100 105

<210> 14
<211> 113
<212> PRT
<213> murine

<400> 14

Asp Ile Val Met Thr Gln Ala Glu Leu Ser Ser Pro Val Thr Ser Gly
1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu Tyr Lys
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Tyr Leu Gln Arg Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Phe Met Ser Thr Arg Ala Pro Gly Val Ser
50 55 60

Asp Arg Phe Ser Gly Ile Gly Ser Gly Thr Asp Phe Thr Leu Glu Ile
65 70 75 80

Ser Arg Val Lys Ala Glu Asp Val Gly Val Tyr Tyr Cys Gln Gln Leu
85 90 95

Val Glu Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105 110

Arg

<210> 15
<211> 114
<212> PRT
<213> murine

<400> 15

Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ala Val Ser Val Gly
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30

Ser Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65 70 75 80

Ile Ser Ser Val Lys Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln
85 90 95

Tyr Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu
100 105 110

Lys Arg

<210> 16
<211> 114
<212> PRT
<213> murine

<400> 16

Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Val Gly
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30

Ser Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Gly Ser Gly Val
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65 70 75 80

Ile Ser Ser Val Lys Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln
85 90 95

Tyr Tyr Ser Tyr Pro Leu Thr Ile Gly Ala Gly Thr Lys Leu Glu Leu
100 105 110

Lys Arg

<210> 17
<211> 113
<212> PRT
<213> murine

<400> 17

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
20 25 30

Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly
85 90 95

Ser His Val Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105 110

Arg

<210> 18
<211> 113
<212> PRT
<213> murine

<400> 18

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly
1 5 10 15

Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp
20 25 30

Tyr Glu Met His Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp
35 40 45

Ile Gly Gly Ile Asp Pro Glu Ile Gly Gly Thr Val Tyr Asn Gln Lys
50 55 60

Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Gly Thr Ala
65 70 75 80

Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr
85 90 95

Cys Thr Ser Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
100 105 110

Ala

<210> 19
<211> 113
<212> PRT
<213> murine

<400> 19

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly
1 5 10 15

Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Asp Tyr Thr Phe Thr Asp
20 25 30

Tyr Glu Met His Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp
35 40 45

Ile Gly Gly Ile Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys
50 55 60

Leu Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ala Ser Ser Thr Ala
65 70 75 80

Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr

85

90

95

Cys Thr Ala Gly Val Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
 100 105 110

Ala

<210> 20
 <211> 113
 <212> PRT
 <213> murine

<400> 20

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly
 1 5 10 15

Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp
 20 25 30

Tyr Glu Val His Trp Val Lys Gln Thr Pro Val Gln Gly Leu Asp Trp
 35 40 45

Ile Gly Gly Ile Asp Pro Glu Ser Gly Gly Thr Ala Tyr Asn Gln Lys
 50 55 60

Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Arg Thr Ala
 65 70 75 80

Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr
 85 90 95

Cys Thr Ala Gly Ala Asp Trp Gly Gln Gly Thr Leu Val Thr Val Phe
 100 105 110

Ala

<210> 21
 <211> 116
 <212> PRT
 <213> murine

<400> 21

Leu Glu Val Gln Leu Lys Gln Ser Gly Ala Glu Leu Val Lys Pro Gly
1 5 10 15

Ala Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp
20 25 30

Thr Tyr Ile Asn Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp
35 40 45

Ile Gly Arg Ile Asp Pro Ala Asn Asn Asn Thr Asn Tyr Asp Pro Lys
50 55 60

Phe Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Pro Ser Asn Thr Ala
65 70 75 80

Tyr Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Asp Val Tyr Tyr
85 90 95

Cys Val Ser Gly Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu
100 105 110

Thr Val Ser Ser
115

<210> 22
<211> 116
<212> PRT
<213> murine

<400> 22

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Phe Val Arg Pro Gly
1 5 10 15

Ala Ser Val Lys Leu Ser Cys Thr Gly Ser Gly Phe Asn Ile Lys Asp
20 25 30

Thr Tyr Met Asn Trp Val Ile Gln Arg Pro Glu Gln Gly Leu Glu Trp
35 40 45

Ile Gly Met Ile Asp Pro Ala Asn Gly Asn Thr Gln Tyr Asp Pro Lys
50 55 60

Phe Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala
65 70 75 80

Tyr Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Thr Ser Gly Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu
100 105 110

Thr Val Ser Ser
115

<210> 23
<211> 114
<212> PRT
<213> murine

<400> 23

Leu Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly
1 5 10 15

Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp
20 25 30

Tyr Ala Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp
35 40 45

Val Ala Ser Ile Ser Ser Gly Gly Thr Thr Tyr Tyr Leu Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Ile Leu Tyr
65 70 75 80

Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys
85 90 95

Val Arg Ser Glu Thr Asn Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
100 105 110

Ser Ser

<210> 24
<211> 120
<212> PRT
<213> murine

<400> 24

Leu Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Lys
1 5 10 15

Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Asn Thr
20 25 30

Tyr Ala Met Asn Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp
35 40 45

Val Ala Arg Ile Arg Thr Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala
50 55 60

Asp Ser Val Lys Asp Arg Phe Ser Val Ser Arg Asp Asp Ser Gln Ser
65 70 75 80

Met Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met
85 90 95

Tyr Tyr Cys Val Arg His Glu Gly Asp Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Glu
115 120

<210> 25
<211> 120
<212> PRT
<213> murine

<400> 25

Leu Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Lys
1 5 10 15

Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Asn Thr
20 25 30

Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Val Ala Arg Ile Arg Ser Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala
50 55 60

Asp Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser
65 70 75 80

Met Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met
85 90 95

Tyr Tyr Cys Val Arg His Glu Gly Asp Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 26
<211> 120
<212> PRT
<213> murine

<400> 26

Leu Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Lys
1 5 10 15

Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Asn Thr
20 25 30

Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Val Ala Arg Ile Arg Ser Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala
50 55 60

Asp Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser
65 70 75 80

Met Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met
85 90 95

Tyr Tyr Cys Val Arg His Glu Gly Asp Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 27

<211> 120
<212> PRT
<213> murine

<400> 27

Leu Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Lys
1 5 10 15

Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Asn Thr
20 25 30

Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Val Ala Arg Ile Arg Ser Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala
50 55 60

Asp Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser
65 70 75 80

Met Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met
85 90 95

Tyr Tyr Cys Val Arg His Glu Gly Asn Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 28
<211> 116
<212> PRT
<213> murine

<400> 28

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Ala Lys Pro Gly
1 5 10 15

Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn
20 25 30

Ser Trp Ile His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp
35 40 45

Ile Gly Tyr Ile His Pro Gly Pro Gly Tyr Thr Glu Tyr Asn Gln Asn
50 55 60

Phe Lys Asp Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala
65 70 75 80

Tyr Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr
85 90 95

Cys Ile Arg Gly Gly Asp Trp Gly Tyr Trp Gly Gln Gly Thr Ser Val
100 105 110

Thr Val Ser Ser
115

<210> 29
<211> 116
<212> PRT
<213> murine

<400> 29

Leu Glu Val Gln Leu Lys Gln Ser Gly Ala Glu Leu Val Lys Pro Gly
1 5 10 15

Ala Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp
20 25 30

Thr Tyr Met Asn Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp
35 40 45

Ile Gly Gly Ile Asp Pro Ala Asn Asp Asn Thr Glu Tyr Val Pro Lys
50 55 60

Phe Gln Gly Arg Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala
65 70 75 80

Tyr Leu Gln Leu Arg Ser Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Val Thr Gly Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu
100 105 110

Thr Val Ser Ser
115

<210> 30
<211> 116
<212> PRT
<213> murine

<400> 30

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly
1 5 10 15

Ala Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp
20 25 30

Thr Tyr Met Asn Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp
35 40 45

Ile Gly Gly Ile Asp Pro Ala Asn Asp Asn Thr Glu Tyr Val Pro Lys
50 55 60

Phe Gln Gly Arg Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala
65 70 75 80

Tyr Leu Gln Leu Arg Ser Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Val Thr Gly Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu
100 105 110

Thr Val Ser Ser
115

<210> 31
<211> 113
<212> PRT
<213> murine

<400> 31

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly
1 5 10 15

Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp
20 25 30

Tyr Glu Met His Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp

35

40

45

Ile Gly Gly Ile Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys
 50 55 60

Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala
 65 70 75 80

Tyr Met Glu Leu Arg Ser Gln Thr Ser Glu Asp Ser Ala Val Tyr Tyr
 85 90 95

Cys Thr Arg Trp Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
 100 105 110

Ser

<210> 32
 <211> 120
 <212> PRT
 <213> murine

<400> 32

Leu Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Lys
 1 5 10 15

Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Thr
 20 25 30

Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
 35 40 45

Val Ala Arg Ile Arg Thr Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala
 50 55 60

Asp Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser
 65 70 75 80

Met Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Thr
 85 90 95

Tyr Tyr Cys Val Arg Gln Gly Glu Asn Arg Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 33
<211> 113
<212> PRT
<213> murine

<400> 33

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly
1 5 10 15

Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp
20 25 30

Tyr Glu Met His Trp Val Lys Gln Thr His Val His Gly Leu Glu Trp
35 40 45

Ile Gly Gly Ile Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys
50 55 60

Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala
65 70 75 80

Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr
85 90 95

Cys Thr Ser Ser Leu Pro Trp Gly Gln Gly Thr Leu Val Thr Val Ser
100 105 110

Ala

<210> 34
<211> 6
<212> PRT
<213> murine

<400> 34

Gln Asp Ile Ser Asn Tyr
1 5

<210> 35
<211> 11

<212> PRT
<213> murine

<400> 35

Lys	Ser	Leu	Leu	Tyr	Lys	Asp	Gly	Lys	Thr	Tyr
1				5					10	

<210> 36
<211> 12
<212> PRT
<213> murine

<400> 36

Gln	Ser	Leu	Leu	Tyr	Ser	Ser	Asn	Gln	Lys	Asn	Tyr
1				5					10		

<210> 37
<211> 11
<212> PRT
<213> murine

<400> 37

Gln	Ser	Ile	Val	His	Ser	Asn	Gly	Asn	Thr	Tyr
1				5					10	

<210> 38
<211> 10
<212> PRT
<213> murine

<400> 38

Gly	Tyr	Thr	Phe	Thr	Asp	Tyr	Glu	Met	His
1				5					10

<210> 39
<211> 10
<212> PRT
<213> murine

<400> 39

Asp	Tyr	Thr	Phe	Thr	Asp	Tyr	Glu	Met	His
1				5					10

<210> 40
<211> 10
<212> PRT
<213> murine

<400> 40

Gly	Tyr	Thr	Phe	Thr	Asp	Tyr	Glu	Val	His
1				5					10

<210> 41

<211> 10

<212> PRT

<213> murine

<400> 41

Gly	Phe	Asn	Ile	Lys	Asp	Thr	Tyr	Ile	Asn
1				5					10

<210> 42

<211> 10

<212> PRT

<213> murine

<400> 42

Gly	Phe	Thr	Phe	Ser	Asp	Tyr	Ala	Met	Ser
1				5					10

<210> 43

<211> 10

<212> PRT

<213> murine

<400> 43

Gly	Phe	Asn	Phe	Asn	Thr	Tyr	Ala	Met	Asn
1				5					10

<210> 44

<211> 10

<212> PRT

<213> artificial sequence

<220>

<223> primer

<400> 44

Gly	Tyr	Thr	Phe	Thr	Asn	Ser	Trp	Ile	His
1				5					10

<210> 45

<211> 10

<212> PRT

<213> murine

<400> 45

Gly	Phe	Asn	Ile	Lys	Asp	Thr	Tyr	Met	Asn
1				5					10

<210> 46

<211> 10

<212> PRT

<213> murine

<400> 46

Gly	Tyr	Thr	Phe	Thr	Asp	Tyr	Glu	Met	His
1				5					10

<210> 47

<211> 10

<212> PRT

<213> murine

<400> 47

Gly	Phe	Thr	Phe	Asn	Thr	Tyr	Ala	Met	Asn
1				5					10

<210> 48

<211> 10

<212> PRT

<213> murine

<400> 48

Gly	Tyr	Thr	Phe	Thr	Asp	Tyr	Glu	Met	His
1				5					10

<210> 49

<211> 3

<212> PRT

<213> murine

<400> 49

Tyr	Thr	Ser
1		

<210> 50

<211> 3

<212> PRT

<213> murine

<400> 50

Phe Met Ser
1

<210> 51
<211> 3
<212> PRT
<213> murine

<400> 51

Trp Ala Ser
1

<210> 52
<211> 3
<212> PRT
<213> murine

<400> 52

Lys Val Ser
1

<210> 53
<211> 17
<212> PRT
<213> murine

<400> 53

Gly	Ile	Asp	Pro	Glu	Ile	Gly	Gly	Thr	Val	Tyr	Asn	Gln	Lys	Phe	Lys
1				5					10					15	

Gly

<210> 54
<211> 17
<212> PRT
<213> murine

<400> 54

Gly	Ile	Asp	Pro	Glu	Thr	Gly	Gly	Thr	Val	Tyr	Asn	Gln	Lys	Leu	Lys
1				5					10					15	

Gly

<210> 55
<211> 17
<212> PRT
<213> murine

<400> 55

Gly Ile Asp Pro Glu Ser Gly Gly Thr Ala Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 56
<211> 17
<212> PRT
<213> murine

<400> 56

Arg Ile Asp Pro Ala Asn Asn Asn Thr Asn Tyr Asp Pro Lys Phe Gln
1 5 10 15

Gly

<210> 57
<211> 17
<212> PRT
<213> murine

<400> 57

Met Ile Asp Pro Ala Asn Gly Asn Thr Gln Tyr Asp Pro Lys Phe Gln
1 5 10 15

Gly

<210> 58
<211> 16
<212> PRT
<213> murine

<400> 58

Ser Ile Ser Ser Gly Gly Thr Thr Tyr Tyr Leu Asp Ser Val Lys Gly
1 5 10 15

<210> 59
<211> 19
<212> PRT
<213> murine

<400> 59

Arg	Ile	Arg	Thr	Lys	Ser	Asn	Asn	Tyr	Ala	Thr	Tyr	Tyr	Ala	Asp	Ser
1				5					10					15	

Val Lys Asp

<210> 60
<211> 19
<212> PRT
<213> murine

<400> 60

Arg	Ile	Arg	Ser	Lys	Ser	Asn	Asn	Tyr	Ala	Thr	Tyr	Tyr	Ala	Asp	Ser
1				5					10					15	

Val Lys Asp

<210> 61
<211> 17
<212> PRT
<213> murine

<400> 61

Tyr	Ile	His	Pro	Gly	Pro	Gly	Tyr	Thr	Glu	Tyr	Asn	Gln	Asn	Phe	Lys
1				5					10					15	

Asp

<210> 62
<211> 17
<212> PRT
<213> murine

<400> 62

Gly	Ile	Asp	Pro	Ala	Asn	Asp	Asn	Thr	Glu	Tyr	Val	Pro	Lys	Phe	Gln
1				5					10					15	

Gly

<210> 63
<211> 17
<212> PRT
<213> murine

<400> 63

Gly Ile Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 64
<211> 19
<212> PRT
<213> murine

<400> 64

Arg Ile Arg Thr Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp Ser
1 5 10 15

Val Lys Asp

<210> 65
<211> 17
<212> PRT
<213> murine

<400> 65

Gly Ile Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 66
<211> 13
<212> PRT
<213> murine

<400> 66

Gln Gln Gly Asn Thr Leu Pro Phe Thr Phe Gly Ser Gly
1 5 10

<210> 67
<211> 13
<212> PRT
<213> murine

<400> 67

Gln Gln Leu Val Glu Tyr Pro Leu Thr Phe Gly Ala Gly
1 5 10

<210> 68
<211> 13
<212> PRT
<213> murine

<400> 68

Gln Gln Tyr Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly
1 5 10

<210> 69
<211> 13
<212> PRT
<213> murine

<400> 69

Gln Gln Tyr Tyr Ser Tyr Pro Leu Thr Ile Gly Ala Gly
1 5 10

<210> 70
<211> 13
<212> PRT
<213> murine

<400> 70

Phe Gln Gly Ser His Val Pro Leu Thr Phe Gly Ala Gly
1 5 10

<210> 71
<211> 3
<212> PRT
<213> murine

<400> 71

Phe Ala Tyr
1

<210> 72
<211> 3
<212> PRT
<213> murine

<400> 72

Gly Val Tyr
1

<210> 73
<211> 3
<212> PRT
<213> murine

<400> 73

Gly Ala Asp
1

<210> 74
<211> 6
<212> PRT
<213> murine

<400> 74

Gly Gly Tyr Phe Asp Tyr
1 5

<210> 75
<211> 5
<212> PRT
<213> murine

<400> 75

Ser Glu Thr Asn Tyr
1 5

<210> 76
<211> 8
<212> PRT
<213> murine

<400> 76

His Glu Gly Asp Trp Phe Ala Tyr
1 5

<210> 77
<211> 8

<212> PRT
<213> murine

<400> 77

His Glu Gly Asn Trp Phe Ala Tyr
1 5

<210> 78
<211> 6
<212> PRT
<213> murine

<400> 78

Gly Gly Asp Trp Gly Tyr
1 5

<210> 79
<211> 6
<212> PRT
<213> murine

<400> 79

Gly Gly Tyr Phe Asp Tyr
1 5

<210> 80
<211> 3
<212> PRT
<213> murine

<400> 80

Trp Asp Tyr
1

<210> 81
<211> 8
<212> PRT
<213> murine

<400> 81

Gln Gly Glu Asn Arg Phe Ala Tyr
1 5

<210> 82
<211> 3
<212> PRT
<213> murine

<400> 82

Ser Leu Pro
1

<210> 83
<211> 663
<212> DNA
<213> human

<400> 83
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ggaattagaa aactcaggag atacaactgt ggaatctgaa agaccaaata aagtgactat 180
tccaagcaca tttgctgcag tgaccatcaa agaaacatta aatgcaaata taaattctac 240
caactttgct ccggatgaaa atcagttaga gtttatactg atgggtgttaa tcccattgat 300
tttattgggtc ctcttacttt tatccgtggg attccttgca acatactata aaagaaaaag 360
aactaacaag aaccttctag ccaaggatct cagagtgtt tacagacata tgaactggga 420
agtgaaaacg tgaaagtccc tattttttgag gaagatacac cctctgttat ggaaattgaa 480
atggaagagc ttgataaatg gatgaacagc atgaatagaa atgccgactt tgaatgttta 540
cctaccttga aggaagagaa ggaatcaa atcacaaccaa gtgacagtga atcctaaacc 600
tgaatggcgc tcatgttttc caagagaagc agcccctgag ggagtctgct gaggctgcca 660
aca 663

<210> 84
<211> 182
<212> PRT
<213> human

<400> 84

Met Gln Ala Pro Arg Ala Ala Leu Val Phe Ala Leu Val Ile Ala Leu
1 5 10 15

Val Pro Val Gly Arg Gly Asn Tyr Glu Glu Leu Glu Asn Ser Gly Asp
20 25 30

Thr Thr Val Glu Ser Glu Arg Pro Asn Lys Val Thr Ile Pro Ser Thr
35 40 45

Phe Ala Ala Val Thr Ile Lys Thr Leu Asn Ala Asn Ile Asn Ser Thr
50 55 60

Asn Phe Ala Pro Asp Glu Asn Gln Leu Glu Phe Ile Leu Met Val Leu
65 70 75 80

Ile Pro Leu Ile Leu Leu Val Leu Leu Leu Leu Ser Val Val Phe Leu
85 90 95

Ala Thr Tyr Tyr Lys Arg Lys Arg Thr Lys Gln Glu Pro Ser Ser Gln
100 105 110

Gly Ser Gln Ser Ala Leu Gln Thr Tyr Glu Leu Gly Ser Glu Asn Val
115 120 125

Lys Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu Ile Glu
130 135 140

Met Glu Glu Leu Asp Lys Trp Met Asn Ser Met Asn Arg Asn Ala Asp
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Phe Glu Cys Leu Pro Thr Leu Lys Glu Glu Lys Glu Ser Asn His Asn
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Pro Ser Asp Ser Glu Ser
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			20					25					30		

Ser Thr Thr Glu Glu Glu Xaa Xaa Glu Xaa Glu Thr Thr Arg Ser Ala
35 40 45

Leu Ala Thr Val Thr Thr Glu Ala Leu Ala Glu Asn Xaa Asn Ser Thr
50 55 60

His Xaa Xaa Xaa Thr Ser Asn Gln Val Glu Phe Ile Leu Met Val Ala
65 70 75 80

Ile Pro Leu Ala Ala Leu Leu Ile Leu Leu Phe Xaa Val Leu Ile Ala
85 90 95

Thr Tyr Phe Lys Ser Lys Arg Pro Lys Gln Glu Pro Ser Ser Gln Gly
100 105 110

Ser Gln Ser Ala Leu Gln Thr Xaa Glu Leu Gly Gly Glu Thr Leu Lys
115 120 125

Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu Ile Glu Met
130 135 140

Glu Glu Leu Asp Lys Trp Met Asn Ser Met Asn Arg Asn Ala Asp Phe
145 150 155 160

Glu Cys Leu Pro Thr Leu Lys Glu Glu Lys Glu Xaa Asn Xaa Xaa Pro
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Ser Asp Ser Glu Ser
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Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Asn Thr
20 25 30

Tyr Ala Met Asn Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp
35 40 45

Val Ala Arg Ile Arg Thr Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala
50 55 60

Asp Ser Val Lys Asp Arg Phe Ser Val Ser Arg Asp Asp Ser Gln Ser
65 70 75 80

Met Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met
85 90 95

Tyr Tyr Cys Val Arg His Glu Gly Asp Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Glu
115 120